

## NOTES ON FUNGI.

(Books used for reference: "Toadstools at Home," and  
"Rambles with Nature Students.")

The class fungi includes not only mushrooms and toadstools, but also moulds, yeasts, bacteria, and the vinegar plant.

As there are many thousands of fungi, some kind of classification is needed. The earliest is found in the "Grete Herball" of 1526, in which we read, "Fungi ben mussherons, there be two maners of them, one manner is deadlie and sleeth them that eateth of them, and be called todestoles, and the other dooth not."

At the present time fungi are classified mainly according to the colour of their spores, which is generally similar to that of the gills. To determine the colour of the spores, break off the stalk of the fungus, and lay the cap on a piece of white paper for an hour or two. When the cap is removed, a fairly accurate picture of cap and gills will be seen traced out by the spores.

In England the mushroom is practically the only fungus used for food, but in other countries people are less fastidious, and some varieties, here despised as loathsome toadstools, form part of the regular diet in Russia and Italy.

Not more than a dozen out of the many thousands of varieties of British Fungi, have been proved to be poisonous, many of the others being edible and much appreciated by those who eat them.

Sometimes even real mushrooms cause symptoms of poisoning, either because those eaten were not quite fresh, or because a poisonous species was cooked with them. It is a safe rule never to eat mushrooms that are at all decomposed or soft, or such as have been found under trees, and to avoid those that have been warmed up after having been previously cooked.

Mushrooms and edible toadstools are excellent, and very

nourishing as food, as they contain a large percentage of flesh-forming elements, in this surpassing any other vegetable.

It is noteworthy that in wet seasons when most of the crops have failed, fungi are extremely abundant.

Dr. Badham, deploring the little use that is made of edible fungi, says: "I have this autumn myself witnessed whole hundred-weights of rich wholesome diet rotting under trees, woods teeming with food, and not one hand to gather it, and this, probably, in the midst of potato blights, poverty, and all manner of privations, and public prayers against imminent famine."

The following notes refer to the Agaricaceæ or gill-bearing Fungi, but most fungi are very similar in mode of growth.

The MUSHROOM (*Agaricus campestris*).

Many people believe that what we call the "Mushroom" is the mushroom *plant*. This, however, is not the case, and if we dig up a mushroom and examine it carefully, we shall find the plant itself consists of a number of fine white threads which run in all directions underground, called the spawn or *Mycelium*; and it is only when this plant becomes vigorous enough to wish to reproduce itself, that the "mushroom" appears. This is developed from a small nodule resting on the network, and first appears above the ground as a white ball, which, as it rises up and gradually expands, divides into two parts, the cap or *pilens*, and the stem or *stipes*.

As the *pilens* expands, the thin membrane enclosing it is torn away from the stem, allowing the *pilens* with its radiating gills to spread out. Part of this membrane or *volva* remains on the stem, and is called the *annulus*, and part still clings to the edge of the *pilens*.

It is on the gills, under the *pilens*, that the spores are formed; they are so minute, and are produced in such vast quantities, that it is estimated that one single fungus can produce 10,000,000 spores. After the gills have become exposed to the air by the rupture of the *volva*, the light spores are carried in all directions by the wind, and it is in this way that the plant is multiplied.

It will thus be seen that the mushroom, the sole function of which is to produce spores, is only the fruit of the mush-



room plant, in the same way that the gooseberry, full of seeds, is the fruit of the gooseberry bush.

How do fungi live? Ordinary plants with green leaves obtain their mineral food from the soil, their organic food from the air, and the energy by means of which they decompose the air and obtain what is necessary from it, from the sun; but the fine filaments of the fungus plant beneath the surface of the ground, are cut off from air and sun, and so have to live on dead and decomposing vegetable matter, acting as scavengers, and using up the rotting materials in the soil.

A few fungi attack living plants and trees, on the tissues of which they live. Some of these can attack a tree direct, but others require a wound to be made, as when a branch is broken or sawn off; there the spores, blown by the wind, settle and germinate, and the plant threads, growing from the spores, penetrate the tissues of the tree, and slowly but surely destroy its life.

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(To be continued.)

## ILKLEY-IN-WHARFEDALE, YORKSHIRE.

Situated as Ilkley is, with the river Wharfe on the north side and Ilkley Moor on the south side, it is no matter for wonder that the Romans recognised, in the position, a good place in which to pitch their camp; and the existence of several old Roman roads in the immediate neighbourhood have led authorities to regard Ilkley as being once on the ancient line of communication between Yorkshire and Lancashire.

In those times the town was known as "Olicana," which name became modified by the British to Olican, Alican, Ylican; by the Saxons to Ylecanley, and so in later times to Ylkley, and as we now know it, to Ilkley.

Traces of the importance of the place in the times of the

Romans and Saxons have been discovered at different periods. On a stone that was dug up, the following inscription was read:—

IM · SEVERVS  
AVG · ET ANTONINVS  
CAES DESTINATVS  
RESTITVERVNT CVRAN—  
TE VIRIO LVPO LEGE—  
ORVM · PR · PR

By this mention of the two Emperors Severus and Antoninus, we obtain a clue of the time when the station flourished, for the inscription sets forth that the fortress had then undergone a perfect repair, under the superintendence of "Virius Lupus, legate and proprætor of Britain in the reign of Severus," who died at York in the year 211.

Another inscription was found on a stone, built up in the south-east corner of the Parish Church:—

RVM CÆS  
AUC . . .  
ANTONINI  
ET VERI  
IGUI DILEGTI  
CÆCILIVS  
PRÆF · COH.

This seems to be the oldest of the inscriptions that have been discovered, as it is as far back as the year 139 since the Emperors Antoninus and Lucius Verus jointly swayed the Roman sceptre.

Half way up the Moor above Ilkley are two small white buildings, which are known as the "Old Wells." There we find two old oval-shaped baths, always freshly filled from the waters of a spring hard by. Tradition says that in these self-same baths—then open to the sky—the Roman soldiers used to bathe every day. It is the water of these wells that has made Ilkley celebrated in these later times, owing to the chemical qualities of "the crystal stream."

Little or nothing is known of Ilkley during the time of the Saxons; but mention is made of the place in Domesday Book.

Near the south entrance to the Parish Church stand three ancient "crosses," or rather "obelisks," the sides of which are wrought in frets, scrolls and knots, among which are introduced the heads and figures of nondescript animals.



Many and varied are the opinions on these relics of by-gone days; but nothing of their meaning and import is known for a certainty.

The Church itself was mentioned in Domesday Book in the year 1085 A.D., but the present tower is really the only portion of the original Church now remaining, and is, by some, supposed to have been built with stones taken from the walls of the Roman fortress.

About six miles higher up the beautiful valley of the Wharfe, we come to the half-ruined remains of Bolton Abbey.

The story runs that this Abbey was built by Adeliza de Romillé in memory of her son Romilly, who was drowned in the river at a spot about a mile distant from the Abbey. This spot is known as the "Strid" (the Stride), for at this point the river narrows to between four or five feet, and rushes down the narrow channel making a descent of about ten feet, swirling and boiling as it goes.

Wordsworth has told the story in his "Founding of Bolton Priory:"—

He sprang with glee, for what cared he  
That the river was strong, and the rocks were steep?  
But the greyhound in the leash held back,  
And checked him in his leap.

The boy is in the arms of Wharfe  
And strangled by a merciless force.  
But never more was young Romilly seen  
Till he rose a lifeless corpse.

Long, long in darkness did she sit,  
And her first words were, "Let there be  
In Bolton, on the field of Wharfe,  
A stately priory!"

There is enough left of the "Priory" to make one realise what a beautiful building it once was. The chapter-house, cloisters, refectory, and adjoining buildings were all destroyed at the Reformation and devastation of the monasteries in Henry VIII.'s reign. The nave, having been preserved for the use of the "Saxon Curé" at the Reformation, now forms the present village Church.